

PROJECT NUMBER: 1720  
PROJECT TITLE: Analytical Microscopy  
PROJECT LEADER: V. L. Baliga  
PERIOD COVERED: April, 1988

**I. TIPPING PAPERS: CHEMICAL AND STRUCTURAL CHARACTERIZATION (Sanders)**

- A. **Objective:** Characterize chemical and structural morphology of tipping papers made with different concentrations of  $\text{CaCO}_3$  and  $\text{TiO}_2$ .
- B. **Results:** A request was made by B. Geiszler to examine cigarette tipping papers made by three different companies. Two of the papers, 12-A and 12-B, were made with 20-25%  $\text{CaCO}_3$ , 6-9%  $\text{TiO}_2$ , and 0-1%  $\text{Al}_2\text{SiO}_5$ . The other paper, 13-A, was made with the same amounts of  $\text{Al}_2\text{SiO}_5$ , but 5-10%  $\text{CaCO}_3$  and 20-25%  $\text{TiO}_2$ . Each paper also had  $\sim 0.5\text{g/m}^2$  nitrocellulose lip release coating and ink. The inner and outer surfaces of each paper were examined by high resolution, scanning electron microscopy.

There were differences in the size and shape of the crystalline additives used in the tipping paper.

- C. **Plans:** Determine the elemental composition by EDS of each crystalline shape of the chemical additives.
- D. **References:**

Sanders, K., PM Notebook #8612, pp. 25-34.

**II. SAFETY (Sanders)**

- A. **Objective:** Instruct ERT members on basic human anatomy.
- B. **Results:** An ERT first aid class on basic human anatomy was presented to the ERT members.